

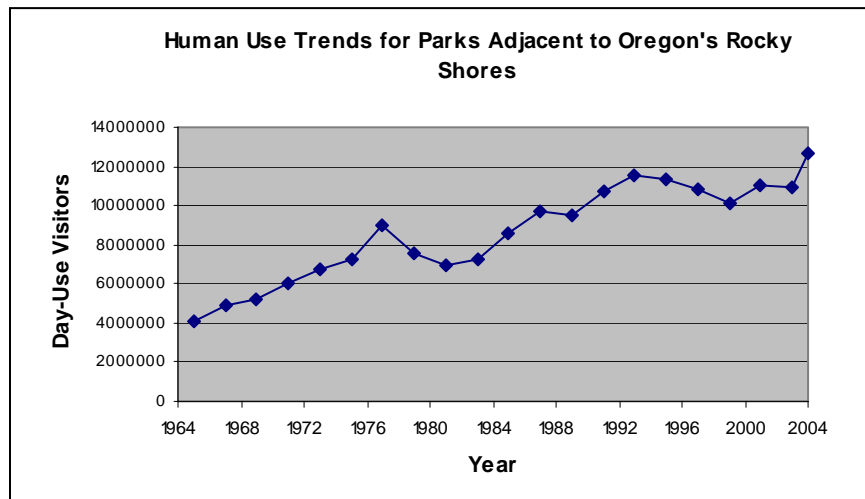
## **THE STATE OF OREGON'S ROCKY SHORES MANAGEMENT: BALANCING USE & NATURAL RESOURCE STEWARDSHIP**

*Laurel Hillmann, NOAA Coastal Management Fellow, Oregon Parks and Recreation  
Department*

**Keywords:** Oregon, rocky shores, intertidal, tidepools, marine managed areas, marine protected areas, human impacts, resource use

### **INTRODUCTION**

Rocky shores are a defining feature of the dramatic 395-mile long coastline of Oregon. Tidepools, cliffs, rocks, and submerged reefs support an ecologically rich and diverse ecosystem at the boundary of the land and sea along 161 miles (41%) of Oregon's shoreline. These rocky shore areas, particularly the 82 miles (21%) of rocky intertidal habitat, attract thousands of visitors annually. Rocky shores are thus resources of high ecologic, economic, and social value to a wide range of stakeholders from local communities to state agencies and citizens of the world at large. As is the trend in coastal areas worldwide, Oregon's coastal (and statewide) population is increasing rapidly. Although use of Oregon's state parks adjacent to rocky shores varies from year to year, the general trend is also increasing (see below). Public access to rocky shore areas has also increased over the past decades (Fox et. al., 1994).



Impacts of human use on rocky shore areas range from the effects of trampling on sensitive intertidal habitat (Brosnan and Crumrine, 1994), to collection of intertidal resources (Castilla, 1999) and conflicts between humans and marine wildlife (Riemer and Brown, 1997). Comprehensive, interdisciplinary management of rocky shores that recognizes the need to balance visitor use and natural resource stewardship is crucial to a successful Coastal Management Program.

### **BACKGROUND**

The Department of Land Conservation and Development (DLCD) administers Oregon's Coastal Management Program (OCMP) in cooperation with several partners. A key partner

agency is the Oregon Parks and Recreation Department (OPRD). OPRD has statutory authority for managing Oregon's ocean shore (the land lying between extreme low tide of the Pacific Ocean and the statutory vegetation line or the line of established upland shore vegetation, whichever is farther inland), which includes beaches and intertidal areas along the entire coast. Therefore, OPRD has a responsibility to protect natural resources, manage a plethora of shoreline uses, and provide public access and recreational opportunities.

Acknowledging that management of coastal areas is complex and requires cooperation between a wide variety of stakeholders, Oregon adopted the Territorial Sea Plan (TSP) as part of the OCMP in 1994 (OPAC, 1994). In addition to laying out a general ocean management framework, the majority of the TSP is spent outlining a management plan for Oregon's rocky shores, the Rocky Shore Management Strategy (RSMS). The RSMS includes a coast-wide framework for managing 39 rocky shore sites and habitats through a coordinated program of local, state, and federal activities and a site-by-site evaluation of management needs and related prescriptions. A companion document to the TSP, the Oregon Rocky Shores Natural Resource Inventory provides a detailed site inventory for all of Oregon's rocky shores (Fox et. al., 1994).

The RSMS proposes six different management categories for Oregon's rocky shores: Marine Garden, Habitat Refuge, Research Reserve, Marine Shore, Not Yet Designated, and Priority Rock/Reefs. However, currently only three categories are actively managed and are briefly outlined below.

- Marine Gardens are areas targeted for educational programs that allow visitors to enjoy and learn about intertidal resources. Take (except single mussels for bait) is prohibited. There are currently seven Marine Gardens managed by the Oregon Department of Fish and Wildlife (ODFW).
- Habitat Refuges are designated based upon the need to maintain natural habitat values and viable populations of marine rocky shore species. They are closed to the take of marine fish, shellfish and all marine invertebrates. Currently, ODFW manages one Habitat Refuge and there is a seasonal closure of Three Arch Rocks, a National Wildlife Refuge.
- Research Reserves are designated based upon the need to allow for scientists to reliably obtain baseline and long-term rocky shore information. ODFW manages two subtidal research reserves, which are closed to the take of shellfish and marine invertebrates, except for scientific take if a permit is obtained. Five intertidal research reserves are currently listed by ODFW. Four of the five sites are closed (except by scientific take permit) to the take of shellfish and marine invertebrates, except abalone, clams, Dungeness crab, red rock crab, mussels, paddocks, scallops and shrimp. The last site is closed to the take of all shellfish and marine invertebrates except for that scientific take permits may be issued.

Recommendations in the Territorial Sea Plan (TSP) suggest the need for future updates to the RSMS. However, since the plan's inception, little has been done to assess the effectiveness and/or implementation of plan provisions. With increased pressures on coastal areas, gubernatorial support of marine protected areas, and new scientific information on rocky shore ecosystems; an updated review of rocky shores management in Oregon is timely.

## METHODS

The goal of this NOAA coastal management fellowship project is to provide the Oregon Parks and Recreation Department with professional assistance, information and planning assessments necessary for enhancing management of Oregon's rocky shore resources and uses. To achieve this goal, the following objectives have been established:

- Conduct an interagency assessment and planning process for rocky shores management
- Provide information and recommendations on rocky shores to support OPRD planning
- Fill rocky shore information gaps in the Oregon Coastal Atlas ([www.coastalatlantlas.net](http://www.coastalatlantlas.net)).

These objectives will be achieved via a series of site visits, a scientific literature review, interviews and meetings with stakeholders. Management objectives and prescriptions identified in the RSMS will be reviewed and updated for each of the 39 specially designated rocky shore sites in Oregon. To better evaluate the potential impact of visitors, a pilot visitor use survey will be conducted to assess the numbers of visitors and the types of use prevalent at a select number of high-use rocky shore sites along the Oregon coast. Outstanding or unresolved management and implementation needs of the RSMS and Rocky Shores Inventory will be assessed in light of current information and recommendations made to improve future management practices for Oregon's rocky shore treasures. *Timeline:* August '04-August '06.

## LITERATURE CITED

- Brosnan, D.M., and L.L. Cumrine. 1994. Effects of human trampling on marine rocky shore communities. *Journal of Experimental Marine Biology and Ecology* 177: 79-97.
- Castilla, J.C. 1999. Coastal marine communities: trends and perspectives from human-exclusion experiments. *Trends in Ecology and Evolution* 14(7): 280-283.
- Fox, D., Merems, A., Miller, B., Long, M., McCrae, J., and J. Mohler. 1994. Oregon Rocky Shores Natural Resource Inventory. Oregon Department of Fish and Wildlife. 168 pp.
- Oregon Ocean Policy Advisory Council (OPAC). 1994. Oregon Territorial Sea Plan. 250 pp. Available online at: <http://159.121.112.22/coast/offshore/otsptoc.html>.
- Riemer, S.D, and R.F. Brown. 1997. Monitoring Human-Wildlife Interactions and Disturbance of Seabirds and Pinnipeds at Three Arch Rocks National Wildlife Refuge, 1993-1994. Oregon Department of Fish and Wildlife. 27 pp.



Laurel G. Hillmann  
NOAA Coastal Management Fellow  
Oregon Parks and Recreation Department  
725 Summer St. NE, Suite C

*Proceedings of the 14<sup>th</sup> Biennial Coastal Zone Conference*  
*New Orleans, Louisiana*  
*July 17 to 21, 2005*

Salem, OR 97301  
(503) 986-0700  
laurel.hillmann@state.or.us